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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,408	02/10/2000	Frederic Serre	A32979-070337.0181	3806

7590 03/04/2002

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EXAMINER	
SHOSHO, CALLIE E	
ART UNIT	**PAPER NUMBER**
1714	13

DATE MAILED: 03/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/501,408	Applicant(s) SERRE, FREDERIC	
	Examiner Callie E. Shosho	Art Unit 1714	

-- The MAILING DATE of this communication app ars on the c ver sheet with the corresp ndenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 November 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 11/7/01 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/501,408 is acceptable and a CPA has been established. An action on the CPA follows.

2. In light of applicant's amendment, which cancelled all pending claims, the rejections of record are overcome by applicant's amendment filed 11/7/01.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 14-16 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 09302146 taken in view of the evidence in Miyazaki et al. (U.S. 6,109,320) and Agostini et al. (U.S. 6,160,047).

Pending translation, and based upon an oral translation by the USPTO Translation Branch, it is noted that JP 09302146 disclose a tire which has a bead filler comprising 100 parts diene based rubber comprising predominantly natural rubber, 20-150 parts silica which has

specific surface area of 210-300 m^2/g, 0-50 parts carbon black which has specific surface area of 50-150 m^2/g, and 5-25% based on the amount of silica, i.e. 1-37.5 parts, of silane coupling agent. Given that the carbon black is present in an amount of 0-50 parts, it is clear that the composition can comprise either silica alone, or in combination with, carbon black. It is further disclosed that the bead filler comprises additional diene elastomer such as styrene-butadiene rubber (abstract, paragraphs 9-10). Although there is no explicit disclosure that the silica has SiOH surface functions, it is well known, as evidenced by Agostini et al. (col.3, lines 64-65) that silica is conventionally known to have silanol, i.e. SiOH, groups on its surface.

Particular attention is drawn to Table 2, example 4, which discloses a composition comprising 80 parts natural rubber, 50 parts carbon black with surface area of 143 m^2/g , 50 parts silica with surface area of 230 m^2/g, and 7.5 parts coupling agent. From this example, it is clear that the amount of silica is greater than the amount of carbon black minus 5 as presently claimed, and further, it is calculated that the ratio of silane coupling agent to silica is 0.15/1 which clearly falls within the claimed range of 0.01/1 to 0.2/1. Given that JP 09302146 disclose composition identical to that presently claimed, it is clear that the composition is cohesive and low hysteric as presently claimed.

Further, it is well known as found in Miyazaki et al., that bead filler is a reinforcing layer found axially outside the turnup portion of the carcass and extending radially from the bead core, i.e. bead wire (col.2, lines 46-50).

In light of the above, it is clear that JP 09302146 anticipates the present claims.

5. Claims 14-16 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 738614 taken in view of the evidence in Zimmer et al. (U.S. 6,136,919).

EP 738614 discloses a tire which has a tread base comprising an elastomeric filler mix wherein the mix comprises additional 100 parts cis 1,4 polyisoprene natural rubber, additional diene elastomer such as high-cis 1,4 polybutadiene, styrene-butadiene emulsion, or styrene/isoprene/butadiene rubber, 14-47 phr carbon black, 5-33 phr precipitated silica which has surface area of 160-200 m^2/g, and silane coupling agent (page 3, line 52-page 4, line 2, page 4, lines 8-9, page 7, lines 9-10, page 13, lines 5-10, and Table 1). From Table 1, it is calculated that the ratio of silane coupling agent to silica ranges from approximately 0.16-0.18 which clearly falls within the present claimed range. Given that EP 738614 disclose composition identical to that presently claimed, it is clear that the composition is cohesive and low hysteric as presently claimed.

The above-described composition is used in the tread base of the tire, which, as seen in Figure 1, is located axially outside the upturn of the carcass reinforcement.

Although there is no explicit disclosure that the silica comprises silanol, i.e. SiOH groups, on the surface, it is noted that EP 738614 disclose the use of silica known under the tradenames Zeopol 8745, Zeosil 1165MP, and VN3 (page 6, lines 19-24) which are identical to those utilized in the present invention, and thus, inherently possess SiOH surface functions as presently claimed. Evidence to support this position is found in Zimmer et al. which discloses that Zeosil 1165MP does in fact possess SiOH groups on its surface (col.7, lines 50-55).

In light of the above, it is clear that EP 738614 anticipates the present claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09302146 or EP 738614 either of which in view of Takeichi et al. (U.S. 6,008,295).

The disclosures with respect to JP 09302146 in paragraph 4 above and EP 738614 in paragraph 5 above are incorporated here by reference.

The difference between JP 09302146 or EP 738614 and the present claimed invention is the requirement in the claims of specific type of additional diene elastomer.

Takeichi et al., which is drawn to rubber compositions for tires, discloses the use of silicon or tin halide modified diene elastomer in order to produce a composition with superior fracture properties and low hysteresis loss (col.1, lines 19-22, col.2, lines 34-55, and col.6, lines 45-55).

In light of the motivation for using specific type of diene elastomer disclosed by Takeichi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use this diene elastomer in the elastomeric filler mix composition of JP 09302146 or EP 738614 in order to produce a mix with superior fracture properties and low hysteresis loss, and thereby arrive at the claimed invention.

8. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09302146 or EP 738614 either of which in view of Fukahori et al. (U.S. 5,844,050).

The disclosures with respect to JP 09302146 in paragraph 4 above and EP 738614 in paragraph 5 above are incorporated here by reference.

The difference between JP 09302146 or EP 738614 and the present claimed invention is the requirement in the claims of diene elastomer that has been modified by branching agent such as divinylbenzene.

Fukahori et al., which is drawn to rubber composition, disclose a diene elastomer comprising a majority of cis-1,4-bonds, which is branched using divinylbenzene (col.9, lines 4-14, 32 and 46-50) in order to produce a composition with good abrasion resistance, fatigue resistance, and tensile properties (col.25, lines 26-36).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use divinylbenzene branching agent in the elastomeric filler mix of JP 09302146 or EP 738614 in order to produce a branched elastomer and thus, a mix with good abrasion resistance, fatigue resistance, and tensile properties, and thereby arrive at the claimed invention.

9. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 738614 in view of Suzuki et al. (U.S. 5,902,856).

The disclosure with respect to EP 738614 in paragraph 5 above is incorporated here by reference.

The difference between EP 738614 and the present claimed invention is the requirement in the claims of BET specific surface area of carbon black.

EP 738614 discloses the use of carbon black, however, there is no explicit disclosure of the surface area of the carbon black.

Suzuki et al., which is drawn to rubber composition for tires, disclose the use of carbon black that has specific surface area of 80-130 m^2/g in order to produce a composition which has highly improved tensile strength and abrasion resistance (col.9, line 64-col.10, line 2).

In light of the motivation for using carbon black with specific surface area disclosed by Suzuki et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such carbon black in the elastomeric filler mix of EP 738614 in order to produce a mix which has highly improved tensile strength and abrasion resistance, and thereby arrive at the claimed invention.

Response to Arguments

10. Applicant's arguments regarding Matsuo et al. (U.S. 5,929,157), EP 799854, and Takagishi et al. (U.S. 6,013,737) have been fully considered but are moot in view of the discontinuation of these references as applied against the present claims.

11. Applicant's arguments filed 11/7/01 have been fully considered but with the exception of arguments relating to Matsuo et al., EP 799854, and Takagishi et al., they are not persuasive.

Specifically, applicant argues that

(a) the rubber composition of EP 738614 is utilized for external portions of the tire, while the present invention is drawn to tire comprising internal filler mix.

(b) Takeishi et al. and Fukahori et al. are drawn to external filler mix.

With respect to argument (a), it is noted that the rubber composition of EP 738614 is used as a tread base. As seen from Figure 1 of EP 738614, the tread base is located axially to the outside of the upturn of the carcass reinforcement. Thus, it is the examiner's position that EP 738614 does disclose tire with filler mix as presently claimed.

With respect to argument (b), note that Takeishi et al. and Fukahori et al. are used as teaching references, and therefore, it is not necessary for these secondary references to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather these references each teach a certain concept, and in combination with the primary reference, disclose the presently claimed invention. Further, it is the examiner's position the motivation for using the specific additional diene elastomers as disclosed by Takeishi et al. and Fukahori et al., i.e. produce composition with superior fracture properties and low hysteresis loss and produce composition with good abrasion resistance, fatigue resistance, and tensile properties,

respectively, is extremely pertinent to the internal filler mix of either JP 09302146 and EP 738314.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Callie E. Shosho
Examiner
Art Unit 1714

Callie Shosho
February 27, 2002